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RUFUS PORTER, EDITOR.

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☞ *See Advertisement on last page.*

A PATENT STEAM SONG.

I sing of steam,
A famous theme
In these surprising days,
When people use
Their *valves* and *flues*
For everything that pays!
Now only heed
The lightning speed
With which the Yankee people travel—
They go so fast
We look aghast,
And scarce the mystery unravel!
I'll make a bet,
That they'll have yet,
Across old Bhering's stormy strait,
A railroad bridge of iron,
And advertise to carry freight
From Boston to Mount Zion!

"Steam" is the cry of friends and foes,
And where 'twill stop no mortal knows;
It's jumping o'er creation's fences,
It's driving people from their senses.
Machiner's wheels by steam are whirled,
For ought I know it turns the world!

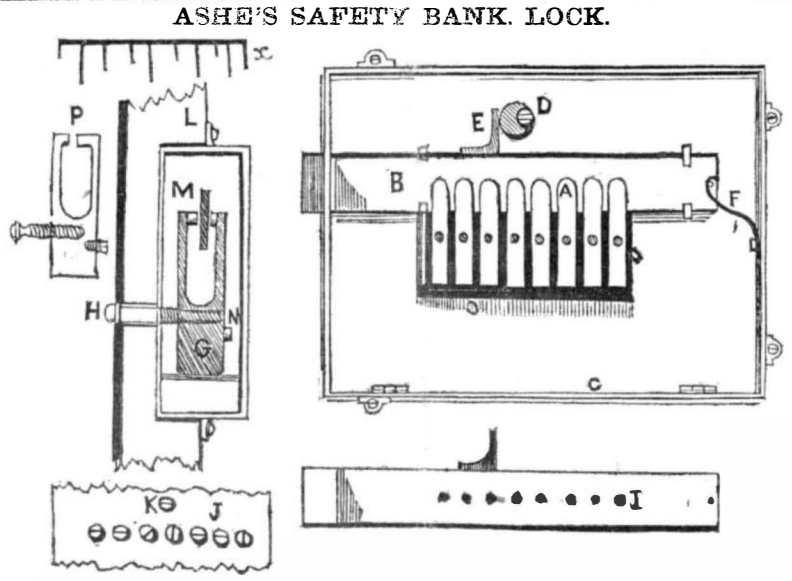
How strange, miraculous, the story,
Is that of famous Fulton's glory,
And yet, if he should now arise,
I think he'd scarce believe his eyes,
To see such wonderful improvements
In steam and locomotive movements!

Steam! steam! steam!
In every sort and way—
And steam! steam! steam!
The during night and day!
Wherever we attempt to go,
We hear the engine's puff and blow;
On every corner that we meet,
We see a sign across the street,
And there in letters, black and white,
This mystic warning meets our sight—
"*Look out for the engine while the bell rings.*"
It's whistle, whistle, whistle!
And puff, puff, puff!
Forever snorting, blowing,
Yet can't make noise enough!
Oh, for the good old days of Adam,
When every gentleman and madam
Did travel on their feet—
They ne'er did dream their sons and daughters
Would go by steam across the waters,
And make the two worlds meet!
Yet so it is! and who, forsooth can tell,
But what we'll have a railroad yet to——well,
I won't say where,
I mean *down there!*

But I must stop this rhyming vein,
I find I'm getting quite profane;
My readers may
Think I'm to gay,
And write with too much *steam* on—
But no, I'm not,
I've only got
Just enough to dream on!

And so, I'll just put on my nightcap, and blow out the light, hop into bed, and bid every body in the world good night.

ASHE'S SAFETY BANK. LOCK.



INTRODUCTION.—This lock is expected to supersede all other bank and safe-locks on account of the impossibility of its being picked or opened by any person but the person by whom it was last locked. As there is no key required and consequently no key hole—and as any person making an attempt to open it cannot possibly tell the stage of progression unless he is made acquainted previously with the secret—and even should he be informed how to open it at one time, the person closing the bank, safe or store, or whatever may be the place secured, can so alter the arrangements, that no other person but himself can open it again: the manufacturer of the lock being himself equally incapable, without information as to the state of the lock previous to its being shut. As the principal construction of the lock is a number of counter bolts—passing through the main bolt acted upon by screws each having 8 or 10 turns, and the more screws and bolts, the more difficult it would be to open it; but four screws having ten turns, doubled and quadrupled by halves and quarters multiplied by the number of screws make the variations incalculable.

It would be as easy for a man to set down and play all the games that could be played on a chess-board—or to attempt to spell all the words that could be spelled with the 26 letters of the alphabet, as it would be for him to turn the screws to all the variations they are capable of being placed in.

EXPLANATION.—This lock may have an iron frame similar to common locks, with a bolt shown at B, scured by a number of counterbolts A, passing through the main bolt, as shown at M. These counterbolts have a double action moving in a slide box and regulated by a thumb screw H. The thumb screw moving in a fast collar and giving motion to the slide counterbolts G. These counterbolts are of different lengths as shown in letter P, and the distance of their motion is regulated by the set screw N, by which means the variations of the screws are regulated; and the difficulty of opening increased. D shows an excentric motion for moving the bolt previous to securing it. E a stud secured to the main bolt, for the action of the excentric: F, is a spring to draw the bolt when all the screws are adjusted: I a section of the main bolt, showing the holes for counterbolts; L shows a portion of a door with lock attached; J, another section showing the appearance of the fastenings on the outside of the door; K thumb screw to move excentric in closing the door.

This lock may be made to work equally as well without the screw. By having a forked key, X, to be forced through the door—made with prongs of unequal lengths corresponding with the distances of the counterbolts; and by this application make this lock applicable for every door where security may be required. Supposing the screws to be all turned at random, after any attempt to open it: the person acquainted with the manner of opening the lock proceeds to turn all the screws to the far end, as far as they will go; then he knows the number of turns or half turns required to bring all the counterbolts, with the apertures, to such a position as to admit the passing of the bolt, which flies open by the action of the spring, when properly arranged. The inventor, Mr. W. A. Ashe of this city, has put in progress measures for securing a patent, and will soon be prepared to furnish these locks to order.

Gun Cotton Ball.

An anecdote is related of a morose crockery dealer, who had a peculiar aversion to the bat-balls with which the boys were playing in the street, and more than once he had caught their balls and without ceremony deposited them in his stove fire. But anon, another ball appeared, and by a bound entered his shop door. Its fate, like that of its predecessors, was immediately sealed. But the sport was not yet ended; for in half a minute an explosion occurred which sent fragments of the stove, and considerable quantities of crockery through the door and windows. The ball had been made in true Yankee (boy) style, and composed of a quantity of gun cotton covered with leather.

A Royal Editor.

It is rumored that the King of Bavaria is about to publish a paper and edit it himself. Punch thinks he will find more disagreeables in the business than he anticipates.

An edition of the life of John B. Gough has been published in Glasgow, Scotland.

Pulpit Ingenuity.

A popular preacher at the close of a sermon soliciting a contribution for a certain object, added the following short address: "From the sympathy I have witnessed in your countenances, and the strict attention you have honored me with, there is one thing I am afraid of, that some of you may be inclined to give too much. Now it is my duty to inform you that justice, though not so pleasant, should always be a prior virtue to generosity; therefore, as you will all be waited upon in your respective pews, I wish to have it distinctly understood, that no person will think of putting any thing into the plate who cannot pay his debts." This produced an overflowing collection.

A wit being asked what superiority John J. Astor has ever shown over his fellows, instantly replied. "That of knowing better than any one else, that two and two make four."

A cannon ball in its flight, though invisible to those whom it passes, may be distinctly seen from behind the piece.

LIST OF PATENTS

Issued from the 19th of January, 1847, to the 21st of January, 1847, inclusive.

To William Joslin, of Waterford, N. Y. for improvement in machinery for manufacturing Cordage. Patented Jan. 19, 1847.

To Timothy Clark, of New Haven, Conn., for improvement in machinery for turning irregular shapes. Patented Jan. 19, 1847.

To Lewis Swift, of Clarkson, N. Y. for improvement in Horse Rakes. Patented Jan. 19, 1847.

To Charles Hammond, of Philadelphia, Penn. for improvement in hammers. Patented Jan. 19, 1847.

To Isaiah Jennings, of New-York, for improvement in lamps. Patented Jan. 19, 1847.

To Joseph W. Ingle, of Upperville, Va., for improvement in Mortising Machines. Patented Jan. 21st, 1847.

To Jean Blanc of New Orleans, La. for improvement in Farm sifters. Patented Jan. 21, 1847.

To James Rabbeth, of Mansfield, Conn. for improvement in Diaper pins. Patented Jan. 21, 1847.

DESIGNS.

To Charles Wolff, of Cincinnati, Ohio, for Design for Stoves. Patented Jan. 21, 1847.

The Man Whom Nobody Knew.

One of our business men, who has been engaged on the landing so long that he knows every body, comparatively, and thinks every body knows him, had a package of money addressed to his care, which he was to dispose of according to direction. The money came on the Louisville Mail boat and was in charge of the clerk. The clerk is one of that kind of men who think that the least said is the soonest mended, and in all transactions, if he can get off with monosyllables only, he seldom uses more, and even with his oldest acquaintances, he is almost always extremely taciturn.

Going on board of the boat, soon after breakfast, our citizen addressed the clerk with, 'Well, Mac, have you got a package for me?'

'I've got one for Mr. H.'—holding it up.

'Yes; that's for me.'

'You must get somebody to say so, before I deliver it.'

Ha! ha! ha! don't know me: well that's a good one.'

'I know your face very well, but *not* your name:'

'That *is* a good joke—don't know me! well, no matter; here comes Captain A. he'll tell you who I am! Captain, who am I?'

'How the d—l I should know?' exclaimed the captain, who is about as blunt in his address as the clerk.

'Why, don't you know me?' said Mr. H. doubtingly, but still with a smile.

'Saw you about a great many times, but don't know you.'

At this juncture a drayman, who had hauled many a load from the store of Mr. H.. came in. On the moment he saw him, he repeated to the clerk again with strong confidence, and with a little sternness demanded his package. Turning to the drayman he said, 'John, tell the clerk of the *boat who I am*.'

''Pon my soul I can,t; know you very well, but never happened to hear your name called.''

Getting a little desperate just then, he was about to curse the whole party, captain, clerk, and drayman. when a gentleman stepped on board, acquainted with both parties, and Mr. H. was relieved from his peculiar situation, and the package was delivered, but he will not soon forget the time that nobody knew him.—*Cincinnati Enquirer.*

An urchin remarked that the principal *branch* of education in his school, was the *willow branch*: the teacher having used up nearly a whole tree.

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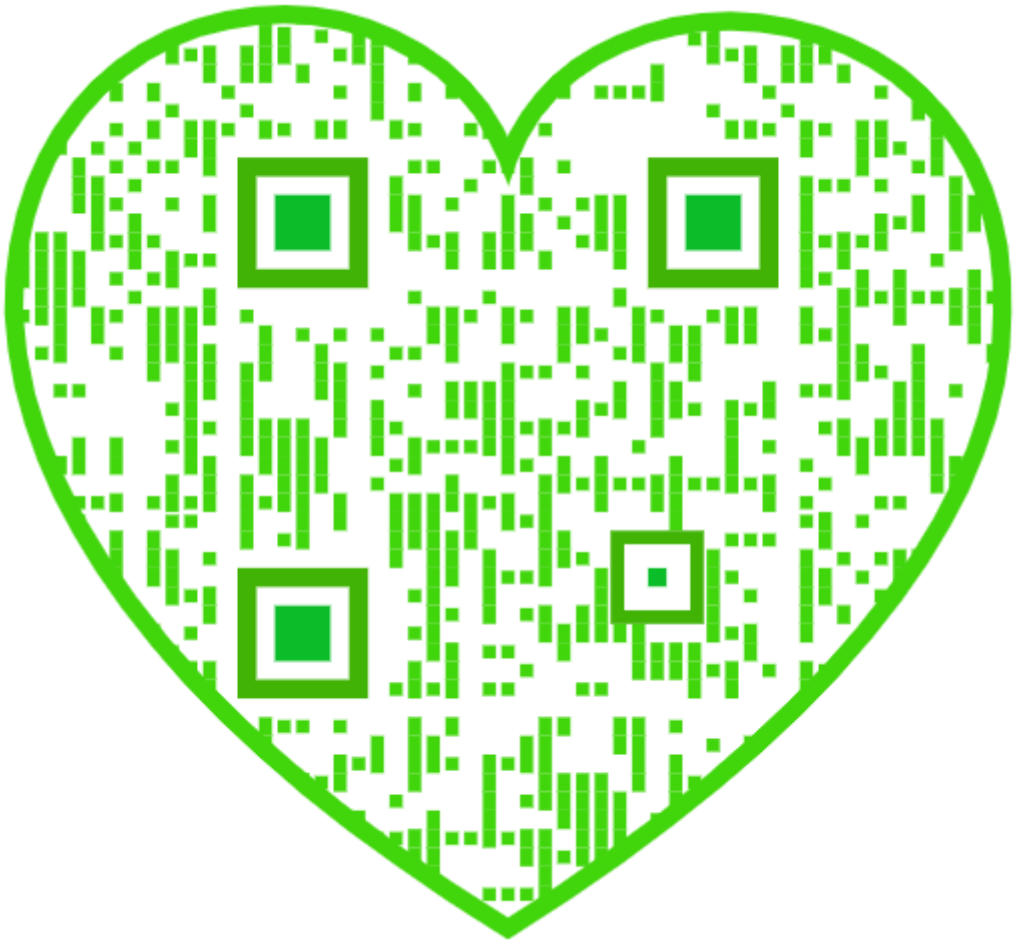

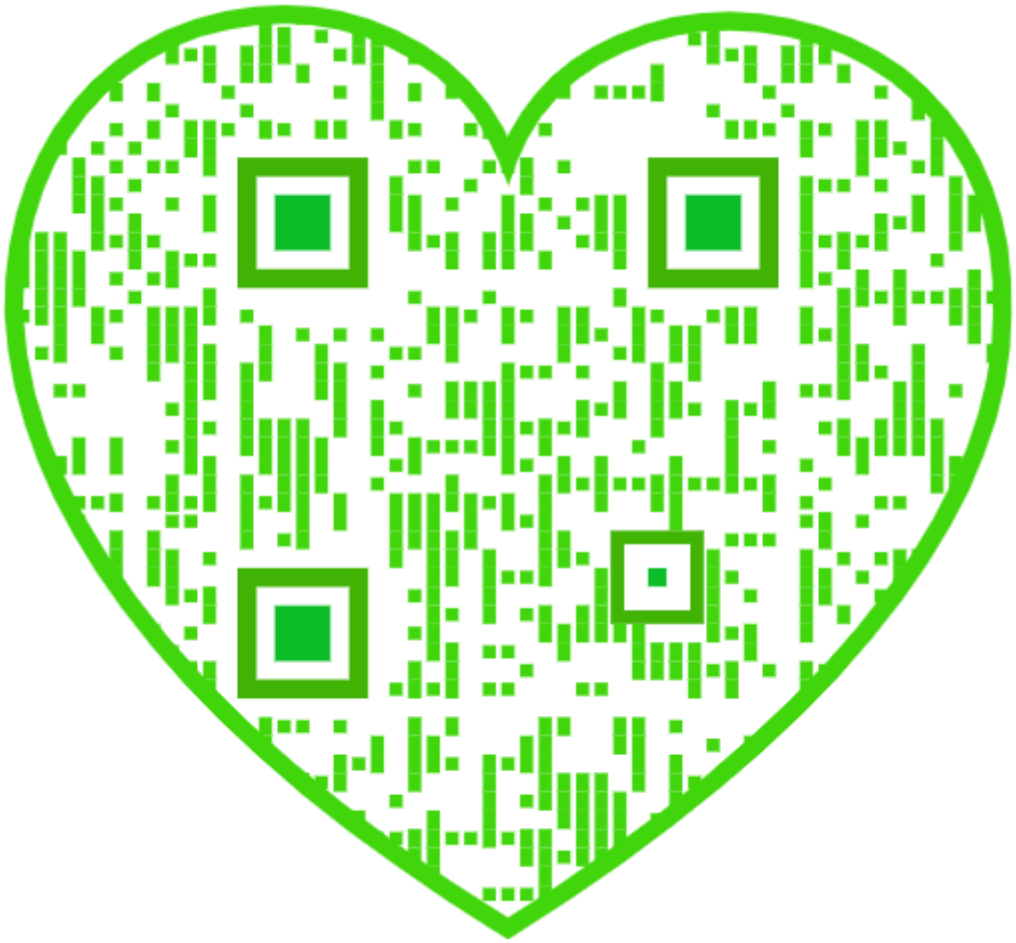

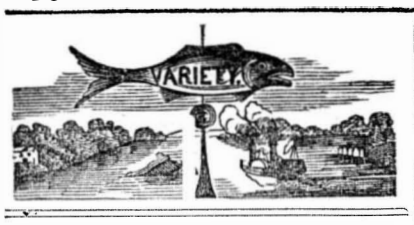

Vibrating Marine Engines.

The public will be gratified to hear of the excellent performances of the Peninsular and Oriental Company's new steam-ship, the Pottinger, in her first trip from Southampton to Malta. The following is an extract of a letter from a gentleman on board, dated Malta, Oct, 2:—"I am sure you will be pleased to hear of our arrival at Malta, after a very rough passage, in which both ship and engines have been well tried, and have been found most efficient. The ship is strong, and not in the least inclined to a strain; the engines are a beautiful specimen of mechanical skill. I have watched their smooth working narrowly, and there have been neither hot bearings, escapes of steam, derangements or breakings of any kind, which to me, from my little experience in steam voyages, is rather surprising. I particularly remarked, whilst off Cape St. Vincent, blowing at the time a smart gale, that the engines made fifteen strokes per minute, with abundance of steam, and the bearings as cool as if the machinery was not in motion. I have no doubt the future performances of ship and engines will be as satisfactory, as all on board admit the passage, under the above circumstances, has been." The engines on board the Pottinger are by Miller, Ravenhill, & Co. of Glasshouse fields. They are the largest oscillating engines that have ever been in motion afloat—being 450-horse power, or having cylinders 76 inches in diameter, and seven feet stroke.—*Lond. Railway Mag.*

A Crooked Stream.

We have heard of crooked sticks and ram's horns, but the following description which a quaint writer gives of the Rio Grande, Mexico, is equal to the crookedest. "Imagine," says he, "four of the crookedest things in the world, then imagine four things twice as crooked, and then fancy to yourself a large river three times as crooked as all these put together, and you will have a faint idea of the crooked disposition of this almighty crooked river. There is no drift in it, from the fact that it is so crooked that timber can't find its way far enough down to lodge two sticks together; but few snakes, because it is not straight enough to swim in; and the fish are all in the whirlpools in the bends, because they can't find their way out. Birds frequently attempt to fly across the river, and light on the same side they start from, being deceived by the different crooks! Indeed you may be deceived when you think you see across it, and some of the b'hoys say it is so darn'd twisting there isn't but one side to it."

Tunneling the Alps.

A Belgian paper announces that experiments have been made, in order to test the efficacy of a machine just invented for the purpose of effecting a new and speedy method of boring tunnels. It is proposed to apply this machine to the construction of the great tunnel about to be commenced for one of the Italian lines. The machine was placed in front of the web, and effected a bore to the depth of 18 centimetres (about six inches) in 35 minutes. At this rate the new invention will complete upwards of five metres (about sixteen feet) of bore per day, and the proposed tunnel through Mount Cenis wil be finished in the space of three years. The experiments have been repeated twice before several of the first engineers of France, and with the most complete success.

Vegetable Locusts.

It is not certainly known what kind of fruit or vegetable constituted the locusts of ancient Judea; but a cargo of locusts is reported to have arrived in England from Spain. They are a kind of bean of large size, and used for feeding animals.

An Old Gossip

Among the foreign gossips it is announced that Duchess de Montpensier (15 years old) as well as the young Queen of Spain is in that happy condition, &c. That was reported immediately after the wedding.

Severe Storm in England.

The weather in England during the middle of December was very stormy and cold, attended with heavy falls of snow. The steamer Nimrod on her passage from Cork to Liverpool encountered a violent gale. The snow lay to the depth of two feet on the deck of the vessel, a gale of wind blowing from the eastward, attended by terrific lightning. The river Thames at London has been filled with ice, greatly to the hindrance of the navigation—The thermometer ranging at about 6 deg. above zero. On the eastern coast of England, there have been heavy snow storms. The roads were completely blockaded up. In many parts of the north the snow lay to the depth of 9 feet. On the track of the York and Newcastle railway, snow lay to the depth of seven feet. In many parts of Pembrookshire it lay to the depth of 12 feet.

Physic and Infancy.

"Ah! poor thing; it's gone at last," said a fond father to a friend, alluding to the death of a baby two months old; "but we did all we could for it, and there's no use repining. It was only ill a week, and during that time we had four doctors, who gave it eight calomel powders, applied one blister to the chest, six mustard plasters, and gave it antimony wine and other medicines in abundance! Yet the poor thing died!" The friend, in amazement, replied, "Died! it would have been a miracle if it had lived."

Philosophical.

In reference to the almost universal custom among all classes, of showing respect to those who are genteely dressed, a poor man once remarked that "when a stranger treats me with want of respect, I comfort myself with the reflection that that it is not myself that he slights, but my old and shabby coat and shabby hat, which to say truth, have no particular claim to adoration. So if my hat and coat choose to fret about it, let them; but is nothing to me."

A Strong Inference.

An Indian chief who had been presented sometime previous with a keg of Madeira wine, was asked what he supposed it was made of? To which he replied that he thought the juice was extracted from woman's tongues and lion's hearts, for when he drank a bottle of it he could talk forever and fight the devil.

The Panama Project.

A Berlin writer states that Prince Louis Napoleon is about to proceed to Central America, for the purpose of putting in progress the work of uniting the two oceans. The celebrated geographer, Professor Charles Ritter, has communicated to the geographical society of Berlin, the project of the Prince, which it appears, he conceived and prepared duriug his imprisonment at Ham.

Asiatic Cholera.

Upwards of 100,000 persons it is stated, have recently been destroyed by the cholera in Persia, and there are reports that it has reached Constantinople, and is passing rapidly west. It is singular that with all the enquiry the origin of this disease cannot be traced.—It is not contagious until after death, and is more sudden in its termination in the East than it was in this country.

Remarkably Frank.

The publisher of the Northampton Democrat, advertises editorially as follows: *Rare chance for a printer!*—As we have, in imitation of our worthy predecessors, printed this paper till our means are exhausted, we are anxious the "rotation principle" should be kept up, and we permitted to retire to private life. Application should be made the present week.

Fruits of the Rum Trade.

An unknown man was found last week at midnight, dead drunk, among some casks on the pier foot of Peck Slip, and lying upon his body were three little girls. The children had found their father in this sad plight, and instead of leaving him to his fate, were watching over him, weeping as if their hearts were broken, and shivering under the influence of the cold night wind. When the motherless children were discovered, the youngest was in a deep sleep, with its soft pale cheek lying on the bloated breast of its father.

Great Project.

It is in contemplation to bring the Enfield Canal to Hartford, in order to supply the city with water and water power. The route has been already surveyed and found practicable. This will enable Hartford to work 500,000 spindles, thus exceeding Lowell. The whole cost would be about $700,000.

Another Singing Mouse.

The Dover, (Eng.) Telegraph states that another musical mouse has been recently caught at Dover, and being caged, sings daily in a manner similar to a canary bird. Its appearance is similar to the common mouse, except that the tail is longer and the head smaller, with full and very bright eyes.

Proverbs.

A white glove often conceals a dirty hand.—Go into the country to hear the news of the town. Call me cousin, but cousin me not.—Zeal without knowledge is like fire without light. Youth and white paper soon take an impression. Vows made in Storms are forgotten in calms. The church is out of temper when charity is cold and zeal is hot. Envy shoots at others, and wounds herself.

The "New Era."

We have received two or three numbers of this new anti-slavery paper published at Washington, D. C. Although its tone is exceedingly mild and comparatively harmless, there is much uneasiness manifested in the district on account of its establishment, and the City Council of Georgetown have appointed a committee to enquire into the expediency of causing it to be discontinued.

Enterprise at Cohoes, N. Y.

Within a few years, there has been erected at Cohoes five cotton mills, two extensive axe factories, one large drawer manufactory, and other smaller factories which employ in all about fifteen hundred hands. The village is well spoken of for the excellent morals and steady industrious habits of its citizens.

An Unwelcome Visitor.

An immense iceberg lately floated into the harbor of Eastport, Me. dashing to pieces several vessels lying at the wharves. It is supposed to have blown from the Arctic Sea in the late gales.

The Millionaire.

An exchange paper in speaking of John Jacob Astor, says he designs establishing an institution for the advancement of deserving and honest young men, by supplying them with a capital varying from one to five thousand dollars, wherewith to commence life and forward them in their respective callings.

Polishing Stoves.

Make a weak alum water and mix your British Lustre with it—perhaps two teaspoonfuls of lustre to a gill of alum water. Let the stove be perfectly cold; brush it over with the mixture—then take a dry brush and dry lustre, commence where you began first, and rub the stove till it is perfectly dry: should any part become so dry, before polishing, moisten it with he wet brush, and proceed as above.

An Expensive Funeral.

Foster, in his book called "Statesmen of the Commonwealth," says that the sum of sixty thousand pounds sterling was devoted to defray the funeral expenses of Oliver Cromwell.

Extensive Emigration.

Upwards of 1000 German emigrants lately took passage from New Orleans to St. Louis, leaving 2000 at the former place, to follow as soon as conveyance could be had.

Ship Building.

There are contracts enough now issued in the ship yards of Kensington, Philadelphia, to give constant employment to all tho shipwrights in that district for the next six months.

The Sci. Am. in England.

We are a little proud to observe that some of the popular English papers, copy more scientific matter from this paper, than from all others extant. There will be a demand for this volume when too late to secure it.

"I never complained of my condition," said the Persian poet Sadi, "but once when my feet were bare, and I had not the money to buy shoes; but I met a man without feet, and became contented with my lot.

LATE FROM MEXICO.

By the most recent accounts, Gen. Taylor is (or was) at Victoria, with 6000 men: Gens. Worth and Wool at Saltillo, with 8000. Santa Anna is watching their movements, but in no apparent hurry. A rumor is current that the Mexican Congress has concluded to accept our proposition for negotiations, &c. The fortifications at Tampico are in a forward state, and prospects look as favorable as usual.

Car Building.

Messrs. Bradley and Rice, of Worcester, have contracted to build for the Providence and Worcester Railroad, eight first class eight wheeled passenger cars to be 43 feet long, and of the most splendid finish.

A merchant who had to sign the baptismal register of one of his children, wrote, "Peter Coule and Co." without perceiving his error, until aroused to it, by the laughter of his friends.

The presbytery of Harrisburg, Canada, have declared dancing sinful, and resolved to suppress it by admonition, discipline, and every other means in their power.

Mr. J. Murray, the celebrated chemist, is of the opinion that gun cotton can never be safely applied to ordnance or fowling pieces, but is well adapted for the quarry and the mine.

The Great Western Steam Ship Company have filed in their office no less than four hundred and sixty plans which they have received from various quarters for floating off the Great Britian.

About 400 vessels bound to the black sea, to take in corn were detained at Constantinople on the 30th, ult, by the storms which have been raging in the Black Sea.

One Am rican house established in the Midland Counties for England and New York has by last steamed ordered over forty thousand barrels of flour in lieu of remittance in bills.

Rome has been recently visited by ahde-structive flood, by which many of the in abitants, a large portion of whom were Jews, have suffered severe loss of property-

The London Sun states that one day during the last of December, the Serpentine Pond in Hyde Park was at one time covered with as many as 20,000 skaters.

During a recent debate in Congress Mr. Leake, of Va. complained that the House of Representatives had been converted into a magnificent abolition society.

It is asserted that the Pope intends to preach personally on some favorite occasions. Perhaps he would do well to make a tour of the world, preaching by the way.

Some of the principal blacksmiths of Liverpool, have introduced the use of prepared coke in their forges instead of coal. It affords a good fire without smoke.

Samples of sugar, cotton and wool, lately grown in the Sandwich Islands were lately exhibited at the Exchange in Liverpool, as commercial curiosities.

Raw cotton is generally known in England, by the name of "cotton wool," by way of distinction from the manufactured cottons.

The people of Merrimack, at a public meetting, have resolved that the place shall hereafter be called Lawrence.

The schooner Indiana which lately cleared at Boston for California, carried away among other articles, about 50 Yankee clocks.

The seven railroads which terminates in Boston, are said to have cost $26,712,124.—The income last year was $3,426,832.

A French philosopher has gravely suggested to the Academy that gun cotton is edible, and is, at present trying to feed dogs upon it.

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AN ORPHAN'S STORY.

I remember sitting weeping,
Asking piteously for bread,
When I thought my mother sleeping—
And they told me she was dead!
Then I knew I wildly screamed—
'Tis like something I have dreamed;
And, ere we were torn apart,
O! I felt that icy chill,
That went freezing to my heart,
And methinks enwraps it still.

Dead! A thought came wild and hurried
Giving sad remembrance birth—
How I'd seen my father buried
In a box beneath the earth.
Oft I asked my mother why
Father should go off and die?
But she then would always weep,
Filling me with strangest fears,
And I used to wake from sleep
By the falling of her tears.

They were faces strange and new
That about us gathered round,
And I knew my mother, too,
Was to go beneath the ground!
Then I asked of some one nigh,
"May not I, too, stay and die?"
And I clasped my mother's form,
Screaming loud and creeping nearer,
Till her coldness struck alarm,
And I strangely grew to fear her!

Still it like a dream appears,
How I parted with my mother,
And still, in unbidden tears,
Feelings rise I cannot smother.
Friends of charity have found me,
Who with kindly cares surround me;
And I feel that I am blessed,
Though no gentle kindred claim me;
Yet, if still at times distressed.
Let not kind protectors blame me.

For a mother's love once known,
May not memory depart,
Until all fair things have flown
That adorn the human heart.
When another child I see
Smiling on its mother's knee,
Oh, then, like a laboring mountain,
Swells the little orphan's heart,
And, as bursting from a fountain,
Tears in gushing torrents start!

All an orphan's heart may coil—
All that may an orphan bless—
Gentle pity yields me all,
Save a parent's dear caress.
Crystal tears from Pity's eye,
Are the stars in heaven high!
Hearts are nature's caverns, where
Heaven to make jewels taught her,
And the drops of pity rare,
From the gems of purest water.

Manufacture of Cotton in India.

The cotton manufactory in India is not carried on in a few large towns, or in one or two districts; it is universal. The growth of cotton is nearly as general as the growth of food; everywhere the women spend a portion of their time in spinning; and almost every village contains its weavers, and supplies its own inhabitants with the scanty clothing they require. Being a domestic manufacture, and carried on with the rudest and cheapest apparatus, it requires neither capital, mills or an assemblage of various trades. The cotton is separated from the seeds by a small rude hand-mill, or gin, turned by women.

The mill consists of two rollers of teak wood, fluted longitudinally with five or six grooves, and revolving nearly in contact. The upper roller is turned by a handle, the lower being carried on with it by means of a perpetual screw at the axis. The cotton is put in at one side, and drawn through by the revolving rollers; but the seeds, being too large to pass through the opening, are torn off and fall down on the opposite side from the cotton.

The next operation is that of bowing the cotton, to clear it from dirt and knots. A large bow, made elastic by a complication of strings, is used: this being put in contact with a heap of cotton, the workman strikes the string with a heavy wooden Mallet, and its vibrations open the knots of the cotton, shake from it the dust and dirt, and raise it to a downy fleece. The hand-mill and bow have been used immemorially throughout all the countries of Asia, and have their appropriate names in the Arabic and other languages: they were formerly used in America, whence the term still applied in commerce, "*bowed Georgia cotton.*" The hatters of Great Britain still raise their wool by the bow. The cotton being thus prepared, without any carding, it is spun by the women; the coarse yarn is spun on a one-thread wheel, and very much resembling those used at the present day by the peasantry in the west of Ireland.

The finer yarn is spun with a metalic spindle, and sometimes without a distaff; a bit of clay is attached as a weight to one end of the spindle, which is turned round with the left hand, whilst the cotton is supplied with the right; the thread is wound upon a small piece of wood. The spinster keeps her fingers dry by the use of a chalky powder.

The yarn, having been reeled and warped in the simplest possible manner, is given to the weaver, whose loom is as rude a piece of apparatus as can be imagined. It consists merely of two bamboo rollers, one for the warp and the other for the web, and a pair of headles. The shuttle performs the double office of shuttle and lay, and for this purpose is made like a large netting needle, and of a length rather more than the breadth of the web. This apparatus the weaver carries to a tree, under which he digs a hole (which may be called the *treadle-hole*) large enough to contain his legs and the lower tackle. He then stretches his warp by fastening his bamboo rollers at a proper distance from each other, by means of wooden pins. The headle-jacks he fastens to some convenient branch of the tree over his head: two loofs underneath, *in which he inserts his great toes*, serve instead of treadles; and his long shuttle, which also performs the office of lay, draws the weft through the warp, and afterwards strikes it home to the fell.—"There is not so much as an expedient for rolling up the warp: it is stretched out to the full length of the web, which makes the house of the weaver insufficient to contain him. He is therefore obliged to work continually in the open air; and every return of inclement weather interrupts him."

Infernal Warfare in Turkey.

People who constitute our peaceable and favored community are prone to be skeptical with regard to the cruelties practised by tyrants and barbarians in ancient wars, and are horrified at a recital of the savage cruelties practiced in a few instances by the North American Indians; but the conduct of the Turkish Tyrant, Bedherken Bey, and that within a few weeks, and against a peaceable community of Christians, is without a parallel. Letters from Massoul state that a tribe of pastoral Nestorians, called the Khozazi, who had hitherto escaped the fury of the Turkish chief, have been his last victims. Bedherkan Bey demanded 25,000 sheep of the dunga, or head shepard of the Khozani. The dunga, in the hope of inducing him to moderate his demand, repaired to the Turkish camp and offered half the number. Bedherken Bey was so far from accepting the proposition, that he had the dunga seized and thrown down a precipice; then with the mangled and bleeding body carried before him, he marched into the territory of the Khoflani. In a few days the whole country was laid waste with fire and sword.—Sixty-seven villages were pillaged and then burnt. At a place called Knabour, he murdered 8000 persons in cold blood. The most horrible cruelties were every where perpetrated by these monsters. Mar Johannah, the second patriarch was impaled alive. Several Nestorians, particularly the priests, had oil poured over their bodies, and were then roasted before a slow fire, amidst the jeers and savage yells of their tormentors.

The Milwaukie Post Office.

The Gazette says: "Some idea of the growth and business of our city may be formed from the fact that during the quarter ending on the 31st ult., upwards of *forty thousand* letters have passed through our Post Office."

"Our first knowledge of *matter* is derived from our *touch*." Very true; for if we touch a red hot iron, we soon discover what the *matter* is.

Enterprise in Boston.

It appears by the following letter that the ready activity of the Boston "working men," is quite equal to the celebrity to which they have heretofore attained.

Boston, Jan. 29, 1847.

Mr. Editor—It is just one week this morning since the great fire at Haverhill Causeway, Medford, Beverly, and Traverse sts. I was greatly astonished to-day while passing over the burnt district, to see the energy displayed in the erection of buildings. I counted no less than ten raised and three or four about to be. Some of the buildings were finished and occupied by Mechanics.

I think this shows that some things can be done as well as others. If you think this worthy of insertion you can do so, and oblige a subscriber and constant reader of your most valuable paper. Yours Respectfully,

G. R. S.

TO CORRESPONDENTS.

On account of an extraordinary press of correspondences and other business for a few days past, we have not been able to give due attention to the favors of correspondents, by way of examination of their various new inventions &c. and have twenty or more letters on hand yet unanswered. We trust therefor, that our friends will not be impatient if we do not allude to all, in this number.

"H. D. T. of N.—You run no risk of losing the right of your invention, by exhibiting it as soon as it is constructed; in fact, the earlier you obtain evidence of your invention the better. The safest way is to construct a model—no matter how rough and simple provided it embraces the principles and peculiarities,—and exhibit it to your friends and request two or more of them to make a memorandum of the date; or, if practicable write their names on the model itself, adding the date. You may then exhibit it openly without danger, and may spend a year or more in improving and perfecting the invention, though to prevent the loss of time by other inventors, in pursuing the same subject, it is advisable to publish a notice and description of your invention, in some widely circulating public journal. With regard to the other subject permit us to suspect that you still labor under some mistake in supposing you can cut off or suspend at pleasure the magnetic attraction of a permanent magnet.

"F. G. W. of W."—Accept our thanks for the beautiful drawing of the truly scientific turn-table. It cannot fail to operate well, though it has the appearance of being somewhat expensive. On the subject of steam carriages, we agree with you with regard to the exact proportions; also in the plan of the boiler, though we should prefer to supply the fuel by a cover (or lid) at the top. The most perfect boiler for this purpose that we have seen, was described in No 8 of our first volume. Experiments in this line have generally failed in consequence of making the work to heavy.—On this account it is much better to use a small engine with a quick motion; and consequently the endless chain will be preferred to an axle crank. Moreover, the power should be applied through a graduate geer, that the leverage may be increased and the motion of the carriage reduced in ascending hills, or travelling through mirey sections of road. We have made some satisfactory experiment, but have never constructed a full finished machine.

"Young Chemist." —We cannot afford to answer anonymouses.

"J. M. R. of B."—We must take more time to examine your invention.

"P. W. of N. B."—The process of coating iron with zinc is very similar to that of tinning iron; but we would by no means reccommend this coating for the interior of a pump barrel or cylinder. With regard to your plan for a wind wheel for working a pump, we know it to be practicable for *we have tried it*. Nevertheless, we should give the preference to the horizontal, re-acting wheel with curved sails, heretofore described in this paper. The weights in your problem, being equal, will require equal force to raise them, if the two levers are connected by a loose joint.

"R. B. W. of W."—A diving bell for the temporary purpose you mention, may be readily made of staves and hoops like a tub. The staves should be at least an inch thick, with a rabbit half an inch deep to receive the head, which must be made of plank. The tub should be four feet in diameter, and four feet deep; and being inverted constitutes the *bell*. It must have a seat in the bottom for the convenience of the submarine explorers, and a quantity of iron or lead—in the form of a hoop or otherwise,—attached to the bottom rim, sufficient to sink it when occupied by the operators. Three small iron rods four feet long, are attached to the sides near the head:—one end of each being nailed to the sides at equal distances, the tops of the rods are brought together and attached to a rope by which the apparatus is managed. By this arrangement, the bell will be kept even more steady in the water than the heavy iron bells.

"H. J. B of W." We send you some papers containing descriptions of brick machines. Various modes of raising water have been given in preceding numbers.

"J. W. of G." Your *cross* looking instrument for finding the centre of a circle, evinces much ingenuity, but we do not think it can be adjusted to the circle so readily as the centre can be found by the common dividers by one who fully understands the use of them: otherwise we should have procured an engraving thereof.

J. S. F. of B."—You have not mentioned the purpose for which you require the transparent cement, and consequently we may not meet your views; but the most permanent, waterproof transparent cement is made by selecting some of the most clear and white pieces of gum copal, and melting them in a small glass flask over a fire of charcoal; and when melted add very gradually,—a few drops only at once,—pure unboiled linseed oil, constantly stirring the gum. One fourth, in volume of oil being mixed with the gum, and when the mixture begins to cool perceptibly, spirits of turpentine may be added in the same cautious manner, till by taking out a little on the end of a stick and cooling it by immersion in water, it will be found as pliable as you require for use. This wax may be applied warm, and will ordinarily harden in about twenty minutes.

"R. S. T. of B."—We regret to have misapprehended you; although it appears to have been no great mistake. What we objected to, was the process of selecting and setting either types or other representatives of letters. You may have seen a plan on this principle in Vail's work on telegraphs, page 32. We see nothing intricate or difficult to be understood in your plan; nor do we doubt its practicability; but the question is with regard to its utility, in competing with House's letter printing, and other improved modes.

"A Subscriber, of W. H." — There is no such art in this city as the real "fresco painting." What is called freso painting by some modern painters, is nothing more than painting in water colors, with a glue sizing or rice paste as fully described in a former number. The Italian fresco painting consists in applying to the surface of walls, a thin coat of colored mortar or plaster, prepared with lime, plaster of Paris and sand, with a sufficient quantity of coloring ingredients. This colored mortar is applied with elastic knives, tubes and pencils, and smoothed down with trowels;—the tints being varied or corrected occasionally by incorporating more or less of the dry pigments with the surface before it is dry.—We may take this occasion to mention that in consequence of the extensive demand for instructions in painting (our first volume being out of print) we shall probably be induced to re-publish in this volume our former treatise on the subject, with sundry revisions and improvements.

"C. A. of S."—We shall be glad to see the drawings of the plan of which thou speakest, and promise thee to give our views unbiassed as thou requirest, and with fair illustrations; but it is not convenient to publish in this number, thy letter of the 26th, as many interesting articles are already excluded for want of time and space. Of our first volume we can furnish about 35 numbers.

"J. S. of Meadow Dale, Va."—We consider our back numbers quite as valuable as those which we are now issuing, and therefor are not disposed to furnish you with a set of them gratis—The fifteen numbers will cost you 60 cents.

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NEW INVENTIONS.

Window Blind Fastener.

The Lancaster Farmer thus describes the blind fastener invented by Mr. S. Litchtenthaeler of Litiz, Pa.

"Standing in front of the window, within, the shutters supposed to be closed and bolted in the usual manner, the operator, by simply drawing a knob, fixed in the frame of the window, like the knob of a door bell to a door-frame, and giving a gentle twist or turn, the *bolt* flies open. Below this knob, and upon either side, is a lever, inserted also in the frame of the window; this lever extends to the shutter outside, the ends containing teeth, which connect a small wheel attached to the edge of the shutter. Turn this lever and the shutter flies open. If you desire the shutters to remain in "a bow," withdraw your hand from the lever and it is bolted. If you desire them to open wide and fall in their accustomed position against the wall of the house, turn the lever again until their place is gained, and—the lever dropped, they are firmly fastened. The lever, when inactive, operates as a bolt in every respect. To close them, the operation is reversed upon the lever. All of this may be accomplished as quick as thought—in a moment—and the necessity of going outside the house, or even of hoisting the windows is entirely and altogether obviated."

It will be remembered that we noticed the issuing of the patent on this invention in a former number; and we are inclined to think favorably of the invention if the expense is not so high as to be objectionable.

Very Valuable Invention.

Mr. Porter:—

Lott McGill, of Philadelphia, has obtained a patent, through my agency, for a machine for dressing the slats for Venetian blinds, displaying great mechanical skill and ingenuity. I have not time at present to give you a description or the machine, but you can form an idea of its value from its performance. Driven by suitable power, with the attendance of one man, it perfectly dresses the sides and edges, and punches the holes in from six to seven hundred slats per hour.

Z. C. Robbins, Attorney for Patents.
Washington, D. C. Jan. 30, 1847.

India Rubber Ink-rollers.

An experienced printer of this city,—whose name will be given when the invention is sufficiently tested,—has discovered a mode of making printers' ink-roilers of the prepared and improved India rubber, and which is more permanently elastic and will last at least ten times as long as rollers made in the usual way and of the ordinary material We have never before heard of the successful application of this material to this purpose: if it has been thus applied, we hope some person will inform us. We shall give further notice of the subject if the operation of these rollers proves satisfactory.

The Everlasting-Candle Stick.

We noticed this invention some time since, namely, a candlestick with a piston by the operation of which the candle can be manufactured from a reservoir of tallow or lard, as fast as it burns down. The Daytonian mentions one of these articles in use at Achey's boarding house in that city, and is assured that it can be kept burning twenty hours for three cents. We think it better adapted to the burning of lard than tallow.

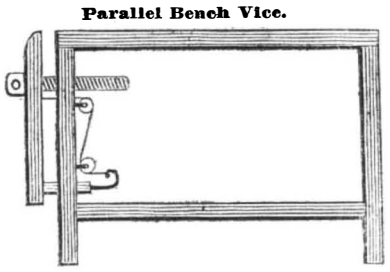
Paper Blankets.

Few persons are aware, says a modern writer, that two sheets of imperial or brown paper, pasted at the edge to form one, (and at a cost less than 3d.) if laid over a bed with one blanket under, will produce more warmth than three ordinary blankets, or over a single coverlet, will be warmer than one blanket only, and will last, with very little care, the whole winter.

Driving Wheels.

A locomotive has been constructed in South Wales, with eight wheels, all connected; thus constituting eight driving, (or traction) wheels. Its capacity of traction is of course proportionably greater than that of engines of ordinary construction.

Parallel Bench Vice.



Every carpenter knows the difficulty of keeping the moveable jaw of a common bench vice, adjusted to correspond with the head thereof, and no method has been heretofore adopted or known for preventing this inconvenience. But a young mechanic at Troy has in a very simple manner, and almost without expense, adopted the plan represented in the cut, which answers an excellent purpose.—He attaches a strap or cord to the rear-end of the sliding bar, (or to a hook projecting therefrom,) and passing the strap over two pulleys arranged as above represented, attaches the upper end thereof, to the jaw near the screw—It will be seen that when the head of the jaw or clamp is brought forward by the screw, the bottom is also drawn to the front by the strap. We should suppose every carpenter and carriage maker would adopt the improvement at once.

Improved Steam-boat Wheels.

We are informed by an exchange that Mr. E. J. M'Carthy of Saugerties, has invented an excellent paddle wheel, the paddles of which leave the water without resistance. Having seen no description of this wheel, however, we can give no opinion. But we have a drawing and description of a paddle wheel invented and furnished by a mechanic of Carbondale, which we highly approve, and think it the most unexceptionable of any plan hitherto invented. Our reason for deferring a full description, is that we expect to procure an engraving thereof: otherwise we shall notice it more particularly in a future number. With regard to its excellence we would say, however, that while it is exempt from objectionable geer work or machinery that would be liable to damage by floating objects, the paddles enter and leave the water without *vertical* resistance, and also avoid two-thirds of the ordinary atmospheric resistance in passing forward over the circumference.

Manufacture of Salt.

A plan was recently submitted to the Polytechnic Society of London, of an improved apparatus for the manufacture of salt. By means of the improvement, it is estimated that six pounds of salt can be produced for each pound of coal employed in the process One feature in this improvement consists in part in keeping up a partial vacuum by means of air pumps. It appears to us, however, that this branch of business may be brought nearest perfection by evaporating the brine in covered air tight kettles or cauldrons, and conducting the steam into the top of a tall cistern, say twenty five feet high and five feet in diameter, nearly filled with cold water, and communicating at the bottom with a river or pond, but without admitting air. The communication between the boiler and the cistern must be kept closed till the boiler is adjusted, and then being opened, the steam will be condensed as fast as it passes into the cistern, and the weight of water in the cistern will tend to maintain a vacuum in the boiler without the use of air pumps. If the surface of the water in the cistern becomes too much heated by the steam a very slight agitation will bring up the cold water from the bottom, while the heated water will pass out of the cistern (which may be entirely open at the bottom) into the river or lake below. This cistern or cylinder may be made of wooden staves and hoops, and the external atmospheric pressure will tend to keep it tight and secure. A similar method might be employed to advantage in the manufacture of sugar.

Another Mortising Machine.

Messrs. Gould & Inslee, of Newark, N. J., have constructed a mortising machine for the use of carpenters and carriage makers. The machine is made principally of iron; works three different kinds of chisels, and costs only fifteen dollars

Magnetic Investigation.

Process of manufacture to produce permanent magnets, having the greatest fixity and capacity conjointly secured. 1. The original iron should be the purest soft iron, charcoal made (not coke;) the Swedish from the Dunnamore mine, is better than any other—2. Converted—with pure charcoal; it should be carbonized lightly, and the process to be stopped when the bars, of the usual thickness, are scarcely steel through, yet so that it will harden with certainty without an undue heat. 3. Sorted—with attention to homogeneous conversion, &c., according to the ordinary rules. 4. Melted—the pot kept covered, and not longer than is necessary in fusion. 5. Cast—into a large ingot, so as to allow of its being well rolled out singly, before it becomes reduced to the requisite thinness. 6. Rolled—while hot from casting, to save a good heating; it should not be doubled over, nor sheared and faggoted; the rolling should be conducted at as low a temperature as convenient, as it thereby acquires a harder, closer texture, and finer grain. 7. In cutting into shape, the substance, (if large, or of varied form,) should not be strained, as by boring with "rymers," or straightening (oftener than is unavoidable) with the hammer, as it is then apt to warp, and have unseen commencements of cracks on becoming subsequently hardened. More carbonization than that previously described at best is of little injury to the magnetic goodness of the steel, provided it be so prepared as to preserve a homogenous and white appearance of fracture when hardened, which is not so easily managed as with that of lower carbonization; but if it be again carbonized more than usual, (as razor steel, or above that,) it rather improves; and again an increase deteriorates it as in cast iron, and a further increase again improves it. In short, in the scale of carbonization there is a succession of continually decreasing maxima of advantage.

On the physical properties which the steel should possess.—The fineness of grain is affected by many adventitious circumstances, which must be considered and allowed for in in judging of it; and the most important fact is the difference between the appearance in the hard or soft states; for in the general properties, whether optical, mechanical, or magnetical, their order, in any set of samples, is reversed in the hard state, independently of the absolute change in each property. The steels should be examined by breaking with a single bend at a file notch (notching with a chisel, bending back, &c., change the appearance.) A microscope of 6 or 10 lineal power is better than any other power for examining it. The general properties, without going into detailed description, should be as follows, the terms being comparative with other samples of less value, and not all with the hard or soft states of the same steel:—

In a soft state.

General appearance, uniform darkish grey.

Rather a large grain, compared with razor steel, (or finer if much rolled.)

Rather irregular in size and shape of grain unless fine. Rounded crystallization.

Close texture, without cavities.

Rather tough for steel.

Attracted considerable before magnetizing.

Loses induced magnetism more freely than other steels.

In a hard state.

Uniform white.

A smaller grain than it was before.

Rather more regular than before.

Rounded crystalization disappears.

Grains individually distinct, with good metallic lustre

Not particularly close.

Brittle and very hard.

Ditto.

Retains magnetism well and abundantly.

Care must be taken to discriminate between real cavities and indentations arising from the crystals being torn up, by the breaking; pure iron often appears porus from this cause.

On hardening &c.—In the ordinary process there is risk and difficulty for large work, owing to unequal heat, unnecessary time and heat applied, especially to fine edges, decarbonization, scaling, &c. These are obviated by a process which is new, as applied on a large scale, namely, heating in melted lead. It will be observed that the *precise* heat is imparted, quite uniformly, in half a minute or so; and the finest edge is heated momentarily no higher than the thickest part, rendering this process incomparable for all instruments where it is the edge or smaller parts that are of importance. *No scale is formed*, the finest polish or sharpest edge being preserved through the hardening. The previous preparation of the steel and some other points are described; and particulars of the manner of refrigeration in water, (salt,) and for securing hardness and great evenness, are also detailed. The process has been applied to steel sheets of 10 inches by 20, obtained quite flat, and as hard as a file throughout, even at the middle parts, which has hitherto been found very difficult—we may say impossible. Magnets, prepared by these means only, differ generally in magnetic power by 1-40 part, many being absolutely equal. Particulars are then given of the advantage of certain high powers for magnetizing bars, and of an apparatus constructed, weighing 2 cwt., and possessing nearly as great aggregate power as the colossal magnet in possession of the Royal Society, (weighing, we believe, two tons.) A method is suggested for verifying the constancy of magneto-meteorological instruments, by means of the terrestrial magnetism itself, independently of its own variations, or of the comparison of the mutual action of three or more bars.

On the Mode of Developing the Magnetic Condition. By Dr. Scoresby.—Dr. Scoresby stated that he had, at York, shown a new and superior mode of developing the magnetic condition of improperly prepared and hardened steel bars, by interposing a thin plate of soft iron between the operating magnet and the bar of steel to the magnetized. He had, at that time, supposed it to be necessary to extend the thin plate of soft iron the entire length of the bars of steel to be magnetized.—But he had since found this to be by no means the case; since, by laying any number of unmagnetized bars of steel in a long line, and passing along them a horse-shoe magnet with its poles connected with a thin polished plate of soft iron, (he used common hoop iron,) the ends being slightly bent upward to cause it to pass more freely over the steel bars, and then turning them over and renewing the process on the other face, he found he could communicate to the bars the full charge which they were competent to receive. The Rev. Doctor exhibited this experiment; and by simply passing a horse-shoe magnet thus armed with an interposed piece of sheet iron, once over each face of twelve previously unmagnetized bars of steel, he communicated to them so much power as that they sustained their own weight, when held up as a chain.

Mr Brown said, that if Dr. Scoresby, or some other equally competent person would turn his attention to the influence of alterations of temperature on the power of a magnet, or could discover some means of rendering the power of a magnet independent of the ordinary changes of atmospheric temperature, he would confer a benefit on persons engaged in magnetic researches.—*Lond. Athenæum.*

Self-acting Regulator for Stoves.

Mr. W. Ran, of Seneca Falls, has adopted and applied to air tight stoves, the self-acting principle of regulating the draught, that was recommended in a former number of this paper. An Albany paper speaking of this invention says:

"This perfect and beautiful combination of self-regulator with the air tight stove, is decidedly the best applieation of the self regulator yet invented, from the fact of the apparatus being placed on the outside of the stove, acting directly on the damper, and makes an appropriate ornament, with a fine appearance.

Warming with Ice.

In common language, anything is understood to be cooled or warmed, when the temperature thereof is made higher or lower, whatever may have been the temperature when the change was commenced. Thus it is said that melted iron is *cooled* down to a sub-red heat: or mercury is cooled from the freezing point to zero, or far below. By the same rule solid mercury, say at fifty degress below zero, may in any climate or temperature of the atmosphere, be immediately warmed and melted by being embedded in a cake of ice.

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NEW YORK, FEBRUARY 6, 1847.

Reckless and Improvident.

When we see a young man lavishly and rapidly squandering his patrimony in gaming and dissipation instead of establishing himself and investing his money or property in some respectable business, we have the voice of the world with us in denouncing his course as reckless and foolish: and the sentiment prevails in every heart, that the natural consequences, poverty and degradation, to which he is so madly hastening, will be his just and proper deserts. When we see a strong and healthy tradesman or farmer, on whose industry and attention to business an interesting family is dependent, so dead to all sense of propriety and discretion as to spend the finest weather in summer in loitering about the groggeries, or following frivolous recreation, we have the opinions of all his sober and prudent neighbors and acquaintance, that he ought to be severely punished, or compelled by law to provide for those whom Providence has entrusted to his care. He is justly censured for his improvidence. A still more criminal and responsible case is that of a man whose more wealthy friend has kindly furnished him with a store of goods on credit, if he immediately commences squandering in a profligate manner the proceeds of the sales of the goods, regardless alike of his obligations to his friend, or his own credit, reputation or interest. Yet neither of the foregoing figures are to highly colored to represent the character of every man, old and young, who believes he is a candidate for immortality,—that the longest life in this world is but a speck in comparison with the endless eternity of the future, and that the happiness of the future state depends on the improvement of time in this life, and yet with this knowledge pursues the vain things of the earth instead of devoting his whole power and faculties to secure the favor of his Creator. A large portion of the American community believe or profess to believe in a future state of conscious existence, and that dependent on their respective characters or conduct here; they admit the infinite importance of securing salvation, with which the state of circumstances of this life is nothing in comparison; and yet they not only bestow more attention on the affairs of this world than on those of the future, but are ever ready to deride and ridicule any one who has consideration enough to neglect the vain pursuits of pride, pleasure and possession of wealth, for the sake of securing a glorious and everlasting inheritance But wisdom is justified of her children; and all who are truly wise will search the sacred scriptures—our only sure guide in these matters,—to see and learn the way of salvation,—and elevate their whole mind and strength to the one object of securing a state of honor, health, beauty and joy that will endure forever.

The Plainfield Bank.

Some of the vagabond brokers in New York have been trying to destroy the Plainfield Bank. They succeeded in creating considerable of an excitement in some places, but the fact of the notes being promptly redeemed has nonplussed the fellows completely. It is unnecessary to say that the Plainfield Bank is quite as safe as the generality of banking institutions.—*Albany Knickerbocker,*

In our opinion the Knickerbocker should have attributed the recent movement against that bank to the strained efforts of certain envious newspaper publishers, rather than to the brokers.

Another American Paper in Mexico.

Two gentlemen of New Orleans, Messrs. Barnard & Jewell, have made permanent arrangements to publish a paper in Tampico, and leave on the 20th to commence and carry on the enterprise. The name of this new journal is to be the "Tampico Sentinel," and that it will be a watchful and a faithful one on the American watch towers of Mexico, the Delta feels well assured.

English Views of America;

"The present position of the United States is unrivalled in the history of the world. In very much less than a century they have sprung from comparative nothingness to occupy a very prominent and influential position amongst the nations of the earth. That influence and that power are to be used for good or for evil. They are even now trembling in the balance; and all wise and good men, in all parts of the world, are curious and anxious for the result. A future destiny for the United States opens in brilliant perspective before us. Ere the close of this century it is estimated she will claim a hundred millions of people, and will occupy a breadth in comparison with which old Europe sinks into the shade. But not in extent alone is this future immensity shadowed forth. In Europe we have forty languages and hundreds of dialects; we have people of various races obeying different princess; for ages engaged in contests with each other, and having opposite religious and commercial interests. Our trans-Atlantic brethren, on the contrary, have a language in common, and the language one of great literary wealth and natural vigor; they are sprung from one race, and that race the energetic Anglo-Saxon; they obey one federal government, and have, for the length and breadth of their immense land, but one general interest. They have begun the world with political principle which other states have looked to as the acme of civilization; they start in national existence with the experience of the old world for their guidance, and the exhaustless resource of the new world for their portion. The problem to be solved is *whether or not they will be true to their high destinies."—London Times.*

The Progress of the Age.

It requires no small amount of discernment to discover the impress of the progress of the age. It is emphatically the age of improvement. The arts and sciences have been more fully developed, and the great mass of society are feeling its influence. Time was, when a man was regarded as an uncommon genius, who had any claim to the reputation of a scientific man. Franklin and Fulton have immortalized their names, by their application of science to electricity and steam.

Had Franklin stood by the side of Professor Morse, and heard him hold conversation with the men of the East, from the Capitol, he, too, in all probability would have been a skeptic.

Little dreamed he of the mighty power that would be applied to machinery by his favorite science. He stood alone, with his wire extended, and saw and felt the power of the electric fire; yet he did not see the message course its fiery path as we see it. He made a great discovery, and to him we are greatly indebted for the improvements which have been made in that science.

Not alone in the arts and sciences are the marks of progress visible. A new and better social existence is being extended to the race. Associations and societies are springing up, as by magic, to give a better social life. The benevolent societies and mutual aid societies are doing much to make joyful the hearts of the unfortunate. Much has been said in favor, and also against secret societies. We do not wish to question the motives of those, whose whole plans we do not know; it is enough for us to know of a tree that it bears good fruit. We have no wish to censure what we do not understand, and much less would we desire to come in possession of a secret another could not keep, lest our secretiveness should have had too small a developement.

We trust no undue curiosity will check the onward march of mind—but, although we may not know every plan of operations, let us judge by the real and practical, by which we cannot be deceived, and we shall not fail in coming to correct conclusions. SARAH G BAGLEY.

Lowell, Jan. 1847.

The Human Form.

It is reported, and perhaps with reason, that wild horses and other animals. are rendered tractable much more readily by men who are nearly naked, than by those who are full dressed. In Mexico, as in Arabia, it is the custom of those who tame wild horses, to place the nostrils of the horse under the man's arm, and otherwise accustom the horse to inhale the odor of the human body.

Manufacture of Plate Glass in England.

The Mining Journal states that perhaps there is no one article, the produce of manufactures of the Isles of Great Britain, in which there has been, for the last thirty years, so much room for the investment of capital, in competition with those who held the trade in their own hands, as that of plate glass. The statistics of this manufacture show some extraordinary features—always having a demand far beyond the power of the makers to supply, enormous profits have been made; and it is a well known fact that one house, in 1845, the year of the total repeal of the duty, made in twelve months a profit of £30,000 on a paid-up capital of £125,000, or very nearly 25 per cent. per annum Notwithstanding the increasing supply annually, since 1819, the demand has increased in a greater ratio; in that year the manufacture was 3000 superficial feet per week, of indifferent quality, with no complaint as to the supply; in 1827 it was 5000 feet, considerably improved, but inadequate to the demand; in 1836 it was 7000 feet, improved, but still insufficient; and in 1844 it had risen to 23,000 feet per week, still improving in quality, but the supply more inadequate than ever. In 1819 the average price for all sizes was 20s. to 25s. per foot, and is now from 5s. to 6s. per foot. Large plates—say 144 irches by 75 inches—could not be manufactured till about the year 1836; they are now made with facility, and sold at 35s. 7d. per foot, while French plates, made at St. Gobain, free of duty, cannot be obtained of that size under 67s. 11d. per foot. There are still only seven houses engaged in this manufacture: the sales average 45,000 feet per week; and the demand is so on the increase, that the works are kept in constant operation, some of them day and night. The duty remitted in 1845 amounted to about forty per cent. on the cost price—while such reduction has only benefitted the consumer to the extent of fifteen per cent.; and even at these enormously increased profits, as we have before stated, the demand far exceeds the supply.

Cut Nails.

Few of the carpenters now in active life, know anything of the toil their predecessors had with pitch-pine timber and boards, and wrought nails, and the old pod auger. The nail machine and the planing machine have taken off a great amonnt of their hard labor, and perhaps some of them think the steam is taking more than its share of the work. But working of pitch-pine with a jack-plane was no sinecure, and when the wrought nail was the only one used, it was necessary to bore a hole for every one with a bit or gimlet. The building which we occupy for an office was erected in the last century by Shipboy, a famous builder in his day, and the timbers are such as are no more to be had. You might as well undertake to drive a nail into a rock.

The business of manufacturing wrought nails was of considerable importance in its day. There were several establishments in this city. and the descendants of their proprietors are now of the *haut ton*, to whom the interior of a nail shop, in which a part of their fortunes was made, would be a great curiosity. Those nails began to go out of use nearly half a century ago, when the cut nail was introduced, greatly economising labor and expense. We learn from the *Niagara Democrat*, that the Inventor of the cut nail, or rather the brad, the addition of the head being ascribed to another, died at Batavia on the 31st Dec. last, aged 83. His name was BENJAMIN COCHRAN, and the *Democrat* gives the following account of him. "His invention was previous to the patent law, and he consequently derived no pecuniary advantage from that which has been of so much advantage to the world. It is worthy of remark, that Eli Whitney, the inventor of the cotton gin, which, in point of utility to the world, is ranked next to the steam engine, and Benjamin Cochran, the inventor of the cut nail, were at one time journeymentogether in the same shop in New Haven. Mr. Cochran settled at Batavia in 1802. Away there in the then wilderness, he had lost sight of his invention, and learned in after years, that it had been perfected, and a nail factory set up in Rochester. We have heard him relate an anecdote of his visit to it. His curiosity to see the operation of his own invention, led him to a close examination of it, and he was arrested by one of the workmen, who remarked to him that he was 'stealing the trade.' 'No, no,' said the old gentleman, '*but you have stolen mine.*'

"He claimed to have coined the first cent ever made in America. He introduced the first church or public bell into Western New York, in 1804, the same that now hangs in the court house in Batavia. He was not only an excellent bell founder, but excelled in other branches of mechanism. After he had passed his 73d year, we had the pleasure of doing the worthy old man a favor, by carrying the model of a new invention to the patent office for him.'

We agree in opinion with the editor of the *Democrat*, that the memory of the inventor of Cut Nails deserves a place beside that of Fulton, Whitney, and his other American contemporaries.

The manufacture of cut nails has become a vast business, giving employment to an immense amount of capital, labor and machinery. A visit to the two establishments on the Poestenkill, below the city of Troy; known as the Troy and Albany Nail Works, will give some idea of it, where the machinery

—"thumps away both night and day,
And makes a noise like thunder O.
The cranks and cams, and battering rams,
Do keep such pelting, pounding, O,
That all the ground is shook around,
By reason of the jouncing, O."

Mech. Jour.

Singular Phenomenon.

The following extraordinary account was communicated to the editor of the Cobourg Star, by Mr. Thomson, Miller of the Grafton Steam mills, in a letter dated January 9, 1847.

—"A most singular phenomenon occurred at this place yesterday afternoon about 3 o'clock, which may be worth a place in your paper.—The Lake was calm, and the wind in the North, when suddenly the Lake receded from the shore in one immense wave, upwards of 350 feet, leaving the beach perfectly dry for that distance; it seemed to gather itself into one vast cone, and immediately returned in one unbroken wave four feet higher than it usually is, burying the wharf completely, and overflowing its usual boundaries more than a hundred yards, sweeping everything before it, accompanied by a dreadful noise. This happened 8 or 9 different times, gradually decreasing in violence until the lake resumed it usual appearance. You know the position of the wharf yourself, and you would hardly credit the fact, that at the end of it, where there is generally 12 feet 6 inches of water, admitting the largest steamboat, there was only two feet of water left; and on its return the water stood a foot deep in the engine house, which is over two hundred yards from the beach. Do you suppose this singular phenomenon was general, or do you suppose it might possibly be connected with some volcanic action working its way to the surface in this particular place? The only sufferer here was Mr. Davis, whose boat lay as he supposed, high and dry, alongside the harbor Company's scow, which latter was lifted bodily, and went *smash* on top of the boat.

About 100,000 bushels of wheat are remaining over in Buffalo for winter storage.

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FOREIGN CORRESPONDENCE.

No. IV.

Our Wonderful Steam-age.—Paradise the Great Depot.

LONDON, Dec., 1846.

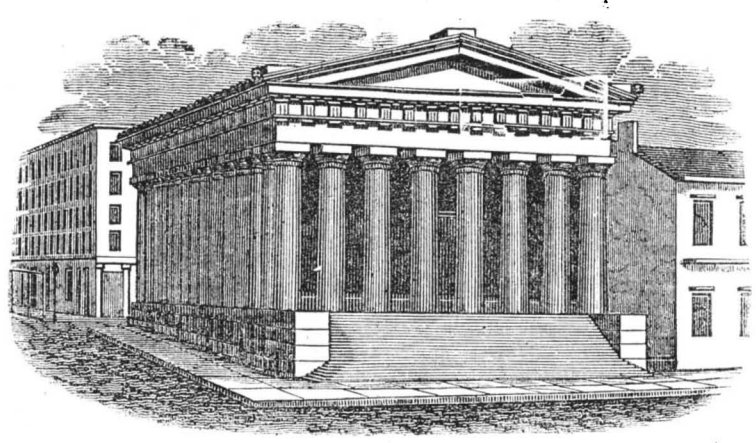
My dear Sci.—

We live in a wonderful age, and are so surrounded by wonderful things that an old fashioned miracle would be called in the parlance of the day, "no great shakes." It seems as if the mind of the whole world was turned sensible at once, and setting about a higher human destiny. Mehemet Ali allows a Christian chapel to lift its spire among the Ottoman Mosques, and the Pope, like another King Hudson, beside issuing business bulls, for the construction of railway lines, offers a handsome reward of one thousand dollars to the man who will suggest the best route for a new road across the Alps. The clatter of car wheels already breaks upon the ear of the Vatican—the salt marshes of Pontine tremble under the flight of frightened swine-herds, and the depot-bells rings out and in, the hurrying passengers for St. Peter's and the Capitoline hill. Who ever dreamed of such a racket and a revolution. Where are the old monks with their croziers, that they do not rise against this new hissing steam-monster—this devil incarnate against all solitudes, seclusions, penances and fasts? Could the magnificent Lorenzo, nodding in his Bucentaur, have fancied of such a thing—or Cosmo eyeing the sea, all covered with light-oared gondolas. Alack, for the spirit of trade, world-communion, Christianity, and glorious cheer, that comes to us on this fire and water winged Mercury. Chinese walls, scymitar-guarded harems, Juggernauts, and wooden shoes, crumble, dissolve, fly into thin air and are remembered as a hazy old dream, There are coming to be no castes, bounds or barriers on the earth. We have found the race horse that leaps the highest dyks, and henceforward to our lady-love Humanity, we can send or bear the latest and tenderest despatch. Surely the valleys are exalted, the mountains flee away, and the *little* hills skip like lambs. I should like to be one of those who live in the next century, just to see what the end of all this is to be. Walking past the ruins of an old castle yesterday, I wished it were possible to evoke one of the old lords of the fifteenth century, merely to watch the rare astonishment he would feel while the rail train went thundering by his rickety old towers, snorting louder than the whole race of Saxon wild boars. If I mistake not our "condition of things" would astonish him more, than any flight backward could us. We have almost all of us lived to see this most remarkable of revolutions—and if the world should stand till its scalp was as grey as a silver fox's or its bald head needed a wig, there can happen no stranger age than ours. A wonderful, promising, hopeful and magnificent age! that is all over flocked with gladness and gold.—Fulton's bones are scarcely crumbled in the ground, while his fire-steed has trampled the entire earth, oceans, lakes, and rivers, and revolutionized, without blood, the aspect of the whole world. On running wheels—rolling wheels—whirling wheels, and by every species of claw, hook, spindle and gudgeon, it has pierced into the old conservative, groping, blind bowels of the past, and roused up the life, energy, faith and good will of mankind. Oceans are converted to mill-ponds—China can toss a tea-caddy into America, and a Birmingham "patent spoon" suffices to reach to the Celestial dominion. There are "short popular routes" from Cowes to St. Petersburg and Pekin; England pastures her sheep at the Cape of Good Hope for convenience, and a *good* hope it is; while the Sandwich Islands "snug as a bug in a rug," are being fitted up for European and American pleasure excursions. Where is the desert of Arabia? Annihilated by steam! The salt pillars of Sodom are only a stone's throw from the "salt licks" of Ohio. Where is the Russian bear—that great black huge bear, that used to be heard growling along the Siberian waste and among the snowy peaks of Ural? There is no such animal, it is dead, hide and hair, clean gone! Englishmen are yachting on the Neva, the Emperor is eating poached eggs and drinking porter at Buckingham palace. Jonathan is cutting up the icebergs,, and building depots for them in Morocco and the Ecuador. Business is brisk, money plenty, and only potatoes scarce. But the world is not going to live on potatoes always, we have only half lived as yet. While we fly over and under the earth, we shall dive more into it, and get more out of it than was ever dreamed of by an Alderman. Without abusing health or limbs, we shall by and by have a science of living as fast as we move. Every body will have oranges, figs, peaches and grapes on his table.—There is earth enough, sun enough, seed enough and steam enough to bring more than this to pass. And all the old hovels, and mud houses must come down—nothing but neat cottages with spreading lawns, beautiful shrubs, statues, fountains, and ivy crowned eaves, can fill out and perfect the picture we have begun sketching in our age. The marshes must be drained, the bogs filled up, the woods trimmed into parks, and then the world will grow affectionate, mannerly and merciful, and we shall have our new garden of Eden and the Millenium. Lions will be either killed or tamed, and there will be no hydras, cougars, sea serpents nor ugly land snakes to bite, frighten, and annoy people, except in curious stuffed skins at the American and British museum. How fast we are getting rid of old monsters. Monsters of the forest, flood, state, church, and naughty society,—and all by steam. Men see that good things are to be had and they relish the idea, they reach out after them. They care less for laborious bone-breaking chivalry, than easy, quiet religious humanity. Humanity is the cry of steam. Commerce echoes it, science and art echo it,—men's wants, tastes, and improved philosophies echo it, and it comes. Look at it! What a round, broad-shouldered, laughing-faced, and arms-full-of-luxury fellow it is. The rich love it, the poor love it, the bond and free love it, and there gathers a regular Christmas shout as it rolls down the mountain side all wrapped in wool and fur, and through the valleys with wheat heads and luscious fruits. Half the scowls and wrinkles of the human race vanish at once, and the rest follow in fear and shame. The Judge groans with the fulness of justice,—the priest overruns with gospel, "the sincere milk of the word," the warriors fall to digging the ground with swords, and cannon balls are run into clock weights. Every body wants a clock.—Connecticut dances with circular saws, lathes, and furnaces to supply the demand. Yes, every body wants a clock—to know and note the precious time. Minutes and hours, and days are not heavy as of old—they are the all glorious heritage of man on earth. They serve him to eat, drink, and be merry! to lift his softest silk handkerchief to wipe the least tear from a human eye—to exalt himself with looking upon human nature, great beautiful nature: brilliant with glimmering suns and stars; sea waves and river waves; fruits and flowers—odoriug with sweet smelling spices, soft with ambrosial gales, and glorified by faces made in the image of the benign, beautiful and blessed God! Is this an allegory—can we have all this? Why cannot we make all the earth a garden just as easily as a man makes a little patch of it into a garden? What was Paradise but a flower and fruit field—until man eat of the forbidden tree, and finding his eyes opened to a knowledge of strength departed from his estate—smote his brother, and hedging himself behind walls for a defence against those he had out raged, sacrificed his beautifnl Eden. Flowers could not grow on his castle walls under the heavy feet of fighting men—fruits would not ripen in the moat and trench. He was turned out of Paradise because he abandoned it, and most righteously and naturally, has he found thorns and thistles, or been a vagabond on the earth ever since. The generous dews and reviving suns fall and glow as in the beginning, the ground returns answer melodious with fat things, to the spade-pressure, and Eden waits for re-occupancy, upon the will of man. Has he not tried his way in wildernesses and robber canes long enough? and why then, with his new steam—ally and convictions may he not carry our allegory out? What means that prayer, "Thy kingdom come thy will be done on earth as it is in Heaven,"—only to be mocked, or did that teacher, who "spoke as never man spoke" behold beyond our times, the descending kingdom established once more on the earth? Was, and is that prayer uttered with sublime faith—or is it a solemn mocking? My hopeful belief and aspirations stand by its utterance in *faith*. I see the millenium no cheat to the true active spirit of man. Christ's life diffused into universal example accomplishes all and more than human heart has yet conceived. Already the wings of angels rustle on the breeze, and songs of "peace on earth and goodwill to men," tremble into glorious anthems, fit for the once uncorrupted world. There was some excuse for the Infidel against God in the barbarous days, but where is the Infidel against God and Humanity to-day? God and humanity—this has even become the cry of the fathers of Inquisitions, and shall we not hail and accept it? fling it abroad as fast as lips can utter, or steam bear it? Wonderful age—and there is no resisting its spirit, Kings and lords, statesmen and churchmen, might as well oppose (if they had the will) arms of flesh against the fiery bolts of the thunder cloud, as stand up before the grand wonder farces of our times. Humanity, like a snow ball gathered on the highest Alp, rolls, widens, and with ever increasing, irresistable force dashes down the mountains of age, guilt, error and oppression, injustice and wrong, leaving a sun-bright sky above the ruin of the past world, that serves only to heighten by remembrance, the splendor of advancing eras. Fly on then ye wheels—rattle ye spindles, build your roads, glorious old Pope they are all the conservators of humanity.

S. D. C.

It is reported that a celebrated plough maker has received orders from Ceylon for ploughs which are to be drawn by elephants.

NEW YORK CUSTOM HOUSE.



If our readers wish to have us give them either the history, or a particular description of this building, we sha'nt do it. We shall only say that this building has been erected about five years;—fronts on Wall street and extends on Nassau, from Wall to Pine streets;—is constructed in a very substantial and permanent manner of large blocks of white marble, the columns in front being nearly six feet in diameter, and to which ascends in front a flight of marble steps sufficient to fatigue any fat office holder, and disable him for an hour at least. The interior is arranged to accomodate as many officers and clerks of the various departments as possible, each of whom appears to know his own business and "don't know any thing else." At the North end on Pine street the ground floor is more easily accessible, being but little elevated above the level of the street, on which a large portion of the occupants make their entrance, and a still larger number, their exit through the back door.

Ventriloquism.

(*Concluded from No.* 19.)

In many of the feats of ventriloquism, the performer contrives, under some pretence or other, to conceal his face; but ventriloquists of great distinction, such as M. Alexandre, practise their art without any such concealment.

Ventriloquism loses its distinctive character if its imitations are not performed by a voice from the belly. The voice, indeed, does not actually come from that region, but when the ventriloquist utters sounds from the larynx without moving the muscles of his face, he gives them strength by a powerful action of the abdominal muscles. Hence, he speaks by means of his belly, although the throat is the real source from which the sounds proceed.—Mr. Dugald Stewart has doubted the fact that ventriloquists possess the power of fetching a voice from within: he cannot conceive what aid could be derived from such an extraordinary power; and he considers that the imagination, when seconded by such powers of imitation as some mimics possess, is quite sufficient to account for all the phenomena of ventriloquism which he has heard. This opinion, however, is strongly opposed by the remark made to Mr. Stewart himself by a ventriloquist, "that his art would be perfect if it were possible only to speak distinctly without any movement of the lips at all." But, independent of this admission, it is a matter of absolute certainty that this internal power is exercised by the true ventriloquist. In the account which the Abbe Chapelle has given of the performances of M. St. Gille and Louis Brabant, he distinctly states that M. St. Gille appeared to be absolutely mute while he was exercising his art, and that no change in his countenance could be discovered. He affirms, also, that the countenance of Louis Brabant exhibited no change, and that his lips were close and inactive. M. Richerand, who attentively watched the performances of M. Fitz-James, assures us that during his exhibition there was a distension in the epigastric region, and that he could not long continue the exertion without fatigue.

The influence over the human mind which the ventriloquist derives from the skilful practice of his art is greater than that which is exercised by any other species of conjurer.—The ordinary magician requires his theatre, his accomplices, and the instruments of his art, and he enjoys but a local sovereignty within the precincts of his own magic circle. The ventriloquist, on the contrary, has the supernatural at his command. In the open fields, as well as in the crowded city—in the private apartment, as well as in the public hall, he can summon up innumerable spirits; and though the persons of his fictitious dialogue are not visible to the eye, yet they are as unequivocally present to the imagination of his auditors as if they had shadowed forth in the silence of a spectral form. In order to convey some idea of the influence of this illusion, we shall mention a few well authenticated cases of successful ventriloquism.

M. St. Gille, a grocer of St. Germain en Laye, whose performances have been recorded by the Abbe de la Chapelle, had occasion to shelter himself from a storm in a neighboring convent, where the monks were in deep mourning for a much esteemed member of their community who had been recently buried. While lamenting over the tomb of their deceased brother the slight honors which had been paid to his memory, a voice was suddenly heard to issue from the roof of the choir, bewailing the condition of the deceased in purgatory, and reproving their brotherhood for their want of zeal. The tidings of this supernatural event brought the whole brotherhood to the church. The voice from above repeated its lamentations and reproaches, and the whole convent fell upon their faces, and vowed to make a reparation of their error. They accordingly chanted in full choir a *de profundis*, during the intervals of which the spirit of the departed monk expressed his satisfaction at their pious exercises. The prior afterward inveighed against modern scepticism on the subject of apparations, and M. St. Gille had great difficulty in convincing the fraternity that the whole was a deception.

On another occasion, a commission of the

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Royal Academy of Sciences at Paris, attended by several persons of the highest rank, met at St. Germain en Laye to witness the performances of M. St. Gile. The real object of their meeting was purposely withheld from a lady of the party, who was informed that an aerial spirit had lately established itself in the neighborhood, and that the object of the assembly was to investigate the matter When the party had sat down to dinner in the open air, the spirit addressed the lady in a voice which seemed to come from above their heads, from the surface of the ground at a great distance, or from a considerable depth under her feet. Having been thus addressed at intervals during two hours, the lady was firmly convinced of the existence of the spirit, and could with difficulty be undeceived.

Another ventriloquist, Louis Brabant, who had been valet-de-chamber to Francis I., turned his powers to a more profitable account. Having fallen in love with a rich and beautiful heiress, he was rejected by their parents as an unsuitable match for their daughter. On the death of her father, Louis paid a visit to the widow, and he had no sooner entered the house than she heard the voice of her deceased husband addressing her from above: "Give my daughter in marriage to Louis Brabant, who is a man of large fortune and excellent character. I endure the inexpressible torments of purgatory for having refused her to him. Obey this admonition, and give everlasting repose to the soul of your poor husband." This awful command could not be resisted, and the widow announced her compliance with it.

As our conjurer, however, required money for the completion of his marriage, he resolved to work upon the fears of one Cornu, an old banker at Lyons, who had amassed immense wealth by usury and extortion. Having obtained an interview with the miser, he introduced the subject of demons and spectres, and the torments of purgatory; and during an interval of silence, the voice of the miser's deceased father was heard complaining of his dreadful situation in purgatory, and calling npon his son to rescue him from his sufferings by enabling Louis Brabant to redeem the Christians that were enslaved by the Turks. The awe-struck miser was also threatened with eternal damnation if he did not thus expiate his own sins; but such was the grasp that the banker took of his gold that the ventriloquist was obliged to pay him another visit. On this occasion, not only his father, but all his deceased relations appealed to him in behalf of his own soul and theirs, and such was the loudness of their complaints that the spirit of the banker was subdued, and he gave the ventriloquist ten thousand crowns to libeate the Christian captives. When the miser was afterward undeceived, he is said to have been so mortified that he died of vexation.

It is not so.

A Philadelphia paper states that some of the ladies of Boston have got to lacing their corsets so tight that they fairly cut themselves in two, so one half of them can go to a church, while the other half goes to a dance. We are happy to state that the report has no other foundation than the *desire* of certain young ladies to do so.

Striking Illustration.

Mons. Edouart, a temperance lecturer, has been giving illustrations at the South, of the career and death of a drunkard, in which, in a fit of delirium tremens, he violently hung himself. The deception of the illustration was so perfect as to give rise to the published report of the death of Mons. by suicide.

Law Makers.

An Illinois paper complains that the people's law makers, when they assemble, forget who they are, whence they came, and for what purpose they are sent.

The expenditures upon the Providence and Worcester Railroad, to 31st December, were upwards of $500,000.

Engraving on Wood

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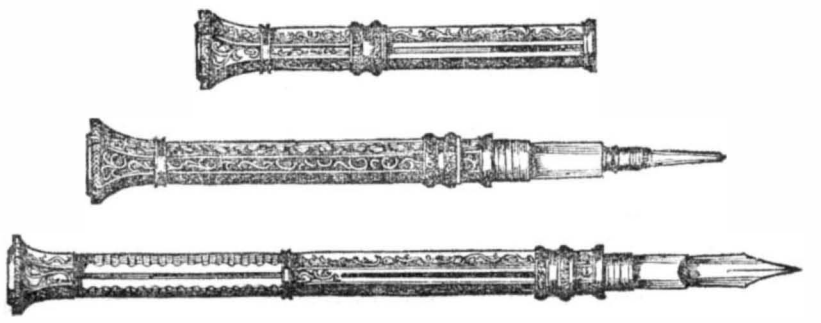

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CURIOUS ARTS

Magnetism.

If a long bar magnet be covered with iron filings, and then withdrawn from the heap, it will be found that a portion of the filings adhere to its surface, but in a very imperfect manner ; large clusters will be suspended from the two extremities, but not a particle will be attached to the centre between them.

Soft iron becomes magnetic by induction from a magnet. If a key or other piece of iron be held near one of the poles of a powerful loadstone or magnet, it will be found that scores of iron filings and needles may be suspended from it. When the magnet is withdrawn they all immediately return to their neutral state.

The opposition of the poles may be shown by suspending two small iron cylinders side by side, in contact, and approaching them with the pole of a magnet. Each will become temporarily magnetic ; and each will have its nearest end converted into an opposite pole to the magnet. The similar poles of the two cylinders, will consequently be in contact, but will immediately repel each other, and the cylinders will fly apart.

There are two forces in magnetism ; or in other words, the north and south poles. Under no circumstances can one force be obtained in any form of iron, without the co-existence of an equal amount of the opposite force of the same mass ; and if we fracture a magnet into any number of pieces, each fragment will still be a perfect magnet with contrary poles.

It is very common with the mass to call the end of the needle that points to the north, the *north pole ;* and the opposite end the south. This is a great mistake, as the principles of attraction and repulsion will show. The north pole of one magnet attracts the south pole of another, and *vice versa ;* therefore the magnetic pole at the north must be the *south* pole in reality, if that end of the needle which points it to be truly the *north* pole. But such is not the case. It is the south pole that points to the north.

Powerful magnetic batteries are constructed by uniting a number of horse-shoe magnets, laying them one over the other with all their poles similarly arranged, and enclosing them in copper case. Mr. Scoresby of England, a gentleman who has given great attention to this branch of science for several years past, has lately ascertained that great advantage arises from constructing of thin plates of hard steel, separated from each other by thin shavings of wood. A magnet thus formed of 196 plates, 15 inches long, and 1-2 inch wide, rendered an iron nail weighing 500 grains magnetic, by induction, at a distance of 11 inches, so that it supported another weighing 389 grains, through a slab of marble seven-eights of an inch thick.

Force of projectile Compounds.

The words strong and strength, are very fallacious, and therefore the notion which the public have of projectile compounds, is, among other things very incorrect. An ounce of powder fired losely scarce makes a noise—a little smoke, a little smell of sulphurious gas, and all is over ; yet the same ounce of powder in a musket would be a charge far more than necessary to urge with deadly effect a leaden ball. An ounce of fulminating silver on the other hand—may, but who would dare to handle an ounce of such a substance?—say the ninety-sixth part of an ounce, or just five grains ; well, five grains of fulminating silver are taken out of a paper with much fear and trembling, touched with no hard substance for fear of explosion, then gently laid on a piece of metal, say a penny piece ; then suppose it ignited by means of a very long stick with a match at one end, and, begging the operator's pardon, with a somewhat rash man at the other—what is the result? A terrible crash, which deafens the operator for some days, and the penny piece is almost bent double! "How strong!" exclaims a non-chemical operator ; "how well this will project a ball!" He tries a small charge in a musket, and what are the results? Why, the gun is burst, the iron literally rent into threads and fragments, the ball is perhaps projected but to an inconsiderable distance—if of lead, flattened as if by a hammer ; if of cast iron broken into fragments!—Now which shall we say is the strongest substance, gun-powder or fulminating silver? The force of all explosive bodies depends on the gasses which are liberated during the explosion and the peculiar effect of their explosion depend on two separate circumstances, the total quantity of gas eliminated, and the rapidity of elimination. Gun-powder perhaps, compared weight for weight with fulminating silver, liberates more gas of the two, but not so rapidly, the liberation is progressive, not instantaneous. Hence its immediate disintegrating effects are not so considerable as those of fulminating silver, but as a projectile agent are more efficient.

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The Science of Astronomy.

MECHANICAL ASTRONOMY.

MEASUREMENT OF TIME.—Although the sidereal day, from its uniformity, is well adapted for astronomical purposes, yet it is scarcely sufficiently marked for the ordinary wants of life No person but an astronomer ever attends to the culmination of a star ; on this account the diurnal return of the sun to the meridian has been universally adopted as the measure of time ; and this is called a civil day. Most nations reckon the begining of their day from midnight, but astronomers count from noon to noon. The day thus determined is called the astronomical or solar day, and, being regulated by the true motion of the sun, the time which is measured by it is called true or apparent time. Two causes conspire to render astronomical days unequal : first, the variable velocity of the sun in his orbit, and second, the obliquity of the eliptic. A mean astronomical day, which is independent of any cause of inequality, has been obtained by astronomers introducing into the system two imaginary suns. These two fictitious bodies are supposed to move uniformly, the first in the ecliptic, the second in the equato ; and as the circles are both equal, the actual motion of each of the bodies is equal. To those desirous of studying this part of the subject, we would recommend a perusal of the article Astronomy in the seventh edition of the Encyclopedia Brittannica, page 778, where it is well illustrated. The correction or equation, by which apparent time is reduced to mean time, is technically called the equation of time. There are only four days in the year when the apparent and mean time are the same, and the equator of time nothing. In the interval between the first and second of these, that is, December 24th, and April 15th, and, again, in that between the third and fourth, that is, June 15th and September 1st, the apparent is always later than the mean time, or to clock is befor the sun ; in the other intervals which complete the year, the reverse is the case, and the clock is after the sun. The greatest difference between solar and true time amounts to be between fifteen and sixteen minutes.—Tables of equation are constructed for the purpose of correcting the differences.

THE MOON.—Next to the sun, the moon is to the inhabitants of the earth the most remarkable and important of all the heavenly bodies. The mean horizontal parallax of the moon is 57 minutes, 48 seconds ; and her mean distance from the earth 239,847 miles. Like the sun, the moon advances in the heavens in a motion contrary to that of the stars. Notwith standing the vast distance she is from us, it is little more than one-fourth of the sun's diameter, and the globe of that magnificent luminary would nearly twice include the whole orbit of the moon. It has various motions ; as a secondary planet, it revolves round the earth, which is its primary. Along with the latter it revolves round the sun, and it has a rotary motion upon its own axis Owing to the sun's apparent movement in the heavens being in the same direction as that of the moon only slower, the latter has to make up for that slowness in the same way as we have mentioned with regard to the earth, and the time it takes constitutes the difference between the sidereal and synodic month or lunation. The sidereal month is 27 days, 7 hours, 43 minutes and 11 seconds, in which time the moon performs a complete revolution round her primary ; and the other is 29 days, 12 hours, 44 minutes, 2 seconds, 87, the time which elapses between two new moons, or two conjunctions of the sun with the moon. It happens that its revolution upon its axis is performed in the same time as its revolution round the earth, so that the same side of her orb is always presented to the latter planet. Although the moon's rotation on her axis is uniform, her motion in her orbit is not so, and we are by these means enabled at times to obtain a peep of the equatorial portions of her eastern and western sides. Her axis also, is not perpendicular to her orbit, and a small part of each of her poles alternately become visible. These phenomena are know by the name of librations of the moon and they are of two distinct kinds, the result of different causes.

The wisdom and benificence of the Deity are strikingly displayed in the economy of moonlight, as distributed to our globe during various seasons of the year. The remarkable phenomenon of the harvest moon is familliar to every one. During the time that our satellite is full, and for a few days before and after, in all about a week, there is less difference between the time of her rising on any two successive nights, than when she is full in any other month in the year. By these means, an immediate supply of light is obtained after unset, so beneficial for gathering in the fruits of the seasons To conceive of this phenomenon, it must be recollected that the moon is always opposite to the sun when she is full : that is, she is full in the signs of Pisces and Aries, these being the signs opposite to Virgo, and Libra, which the sun passes through in in September and October, our havest months. Thus, although, whenever the moon enters the two former signs (and she does so twelve times in a year,) the same circumstance takes place in regard to the time of her rising ; yet it is not observed on these other occasions, just because she is not full at the time. The reason of there being little difference in the time at which she rises on several successive nights, is, that at these periods her orbit is nearly parallel with the horizon. The harvest moons are as regular in south latitude as with us in north latitude, only they happen at different periods of the year.

New Streak of Lightning.

On Thursday evening Toronto was attached to the Buffalo and New York line of Telegrape and communications passed along the line from New York to Toronto for the first time. Subsequently Boston was brought into circuit, and a connected line of 900 miles placed in operation. Messages passed from the various offices, and the substance of the recent foreign news was transmitted to Toronto from the station here.

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